

# A Study on Prevalence, Complications and Management of Septic Arthritis.

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## ABSTRACT

**Background:** Septic arthritis is also known as joint infection or infectious arthritis or pyogenic arthritis, is the invasion of a joint by an infectious agent resulting in joint inflammation. It is one of the major orthopedic problem. The morbidity and mortality is very high if the treatment is delayed. The causes includes bacteria, viruses, fungi and parasites. Aim of the study: To study the prevalence ethiology and complications and management of septic arthritis in our department. **Methods:** We have studied 80 Acute septic arthritis cases out of these 25 are females 15 are in pediatric age group. **Results:** Results depends on early diagnosis and treatment, delayed diagnosis and treatment may have high morbidity and mortality. In our study 52 patients (64.78%) had excellent prognosis, 12 patients (15.4%) had good prognosis, 8 patients (9.85%) had poor prognosis and 8 patients (9.85%) are died because of complications. **Conclusion:** Acute Septic arthritis is still a major health problem in developing countries and India also. The morbidity and mortality is very high in rural part of India and it is mainly because of delayed diagnosis and treatment. So there is need to improve medical facilities in rural part of India.

**Keywords:** Infectious, Effusion, knee joint, complications arthritis.

## INTRODUCTION

Septic arthritis is also known as joint infection or infectious arthritis or pyogenic arthritis is the invasion of a joint by a infectious agent resulting in joint inflammation.<sup>[2]</sup> The most common symptoms are redness, heat, pain and swelling in a single joint associated with decreased ability to move the joint.<sup>[3]</sup> Most commonly joints becomes infected via the blood. But may also become infected via trauma or infection around the joint.<sup>[4]</sup> The most common organisms are staphylococcus aureus, Escherichia coli and pseudomonas aeruginosa. Septic arthritis occurs in about 5 people per 100,000 each year.<sup>[5]</sup> The other organisms involved are Nissaria gonorrhoeae possibly borrelia, Fungal and mycobacterial and HIV infectious are rare causes of septic arthritis, Staphylococcus aureus is most common causes in most age groups, can be caused by skin infection, previously damaged joints, prosthetic joints and intravenous drug abuse.<sup>[6]</sup>

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Microorganisms in the blood may come from infectious elsewhere in the body such as wound infectious, urinary tract infectious, meningitis or endocarditis.<sup>[7]</sup> Rate of septic arthritis varies from 4 to 29 cases per 100,000 persons per year, depending on underlying medical conditions and joint characteristics. For those with septic joint 85% of the case have an underlying medical conditions like diabetes, immunocompromised conditions like HIV renal failure and hepatitis virus infectious. Having more than one risk factor greatly increases risk of septic arthritis.<sup>[8]</sup> The risk factors include age above 80yrs, diabetes, osteo arthritis, Rheumatoid, arthritis immunosuppressive drugs, intravenous drugs abuse, recent joint surgery, hip or knee prosthesis, skin infectious HIV and other infectious.

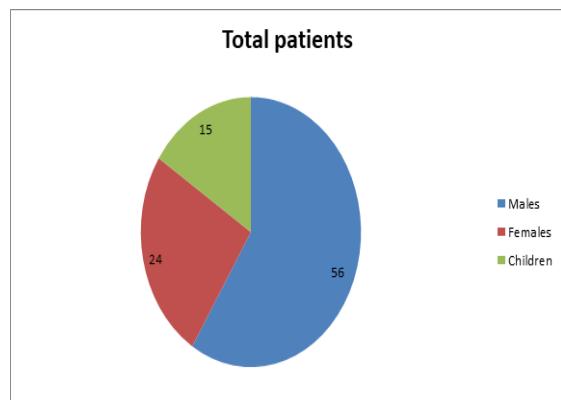
## MATERIALS AND METHODS

We have examined 80 patients out of these 80 patients Males are 56, Females are 24 and Children are 15. This study is conducted for 11/2 years between 2015 Feb and 2016 July. After talking detailed history and clinical examination under a septic precautions, fluid is aspirated from affected joints by using 18G needle and fluid has been sent for gram stain, culture and sensitivity, complete blood picture especially for leucocyte count and

routine biochemical tests like blood urea, blood sugar serum creatinine, serum electrolytes and liver function tests were also done. C reactive protein is also done. Blood culture and sensitivity were repeated at regular intervals. X-ray chest was taken to rule out any lung pathology. X-ray of affected joints were taken and compared with contralateral joints. Ultrasound is the best investigation in detecting the effusion. The empirical antibiotics used in the initial stages are for gram positive cocci – vancomycin, for gram negative cocci – ceftriaxone, for gram negative bacilli – ceftriaxone, for immune compromised patients – vancomycin.<sup>[10]</sup>

**Table 1: Gender Distribution.**

S.no	Males	Females	Children	Total
1	56	24	15	80



**Chart 1: Total Patients.**

## RESULTS

In our study the total patients 80 among those females are 25 no. and children are 15 in no. children are between 10 to 15 years knees. Joint is commonly involved joint (42.75%) 89.25% were mono articular. Most common organism are staph. Aureus and streptococci pyogenes in all age group. In children, streptococcus pyogenes and hemophilic influenzae are common, fungal infectious are common in immuno compromised patients and in patients who are on steroids. Broad spectrum antibiotics were given to all the patients. 34 patients (46%) were treated non operatively with proper antibiotics depends on causative organisms, age and other criteria. 46 patients (54%) were treated surgically. Operative treatment by arthrotomy copious lavage, with normal saline followed by a negative suction and drain was done. The response to conservative treatment was measured by

- Increased CRP and high ESR.
- High synovial fluid leucocyte count
- Culture positive.

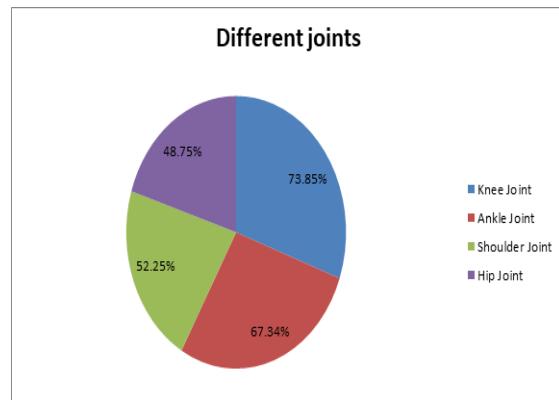
Non operative treatment was done with parenteral antibiotics and aspiration of fluid 8 patients expired in the hospital.

## DISCUSSION

In our study, *staphylococcus aureus* was the commonest organism which causes acute septic arthritis. The study conducted by Rosenthal also shows similar results.<sup>[11]</sup> *Staph. Aureus* also common in pediatric age group.<sup>[12]</sup> If the diagnosis is delayed, the prognosis is poor. In our study the delay is due to, delayed diagnosis, improper antibiotics by local general practitioners and not associated with immobilization of the part and aspiration.

The result were excellent in the patients with *staph aureus* 67.79%. Where as the arthritics because of *pseudomonas acuginosa* and *Escharichia coli* were having poor response. The study conducted by Pally W. et. Al shows similar results.

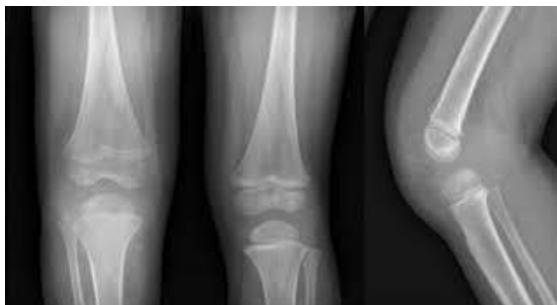
The knee joint which is considered as super fascial joint has excellent (73.85%) results, ankle joint has also excellent prognosis 67.74%. the deeper joint are having shoulder 52.25% fair 47.75% poor result. Where as hip joint in having 48.75% fair result and 38.25% are having poor results.



**Chart 2: Different joints.**



**Figure 1: septic arthritis (Infectious arthritis)**



**Figure 2: AP view of Knee joint in Septic Arthritis**



**Figure 3: AP view of Knee joint in Septic Arthritis**

The final outcome of acute septic arthritis following systemic steroids produced excellent results only in 31.55% of 8 patients died because of diabetes, renal failure and septicemia.

## CONCLUSION

Acute septic arthritis is a major orthopedic problem in India. The most important factor in the prognosis is delayed diagnosis. In case of early diagnosis, early management, the prognosis will be excellent. In case of delayed diagnosis, the prognosis will be poor.

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